PALM INTRANET

Day : Thursday
Date: 8/18/2005

Time: 13:09:40

Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.
Additionally, enter the **first few letters** of the Inventor's First name.

Last Name	First Name	
hartmann	marcus	Search

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Day : Thursday
Date: 8/18/2005

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Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.
Additionally, enter the **first few letters** of the Inventor's First name.

Last Name	First Name	
tiedtke	arno	Search

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PALM INTRANET

Day : Thursday
Date: 8/18/2005

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Inventor Name Search

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Last Name	First Name	
baumert	uwe	Search

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	5	"beta.hexosaminidase"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S2	821	hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S3	2	hexosaminidase SAME ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S4	4050	tetrahymena or ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S5	4	hexosaminidase SAME (tetrahymena or ciliate)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S6	1035	ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S7	855	hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S8	512	"acid hydrolase"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S9	609	beta WITH hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S10	532	beta NEAR5 hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S11	4	ciliate and (beta NEAR5 hexosaminidase)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S12	11003	protozoa	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55

S13	13	protozoa and (beta NEAR5 hexosaminidase)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S14	9112	hartmann.in. or tiedtke.in. or baumert.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S15	9	(hartmann.in. or tiedtke.in. or baumert.in.) and ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S16	6	cilian.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S17	59376	recombinant WITH expression	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S18	391	(recombinant WITH expression) and ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S19	3	((recombinant WITH expression) and ciliate) and hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S20	2071	protozoa and (recombinant WITH expression)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S21	17	(protozoa and (recombinant WITH expression)) and hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S22	39331	"protein expression" or "protein production"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S23	164	("protein expression" or "protein production") and hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S24	7	(("protein expression" or "protein production") and hexosaminidase) and (ciliate or protozoa)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55

S25	3482	tetrahymena	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S26	61	(tetrahymena or protozoa or ciliate) and "acid hydrolase"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S27	18	((tetrahymena or protozoa or ciliate) and "acid hydrolase") and ("protein expression" or "protein production")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S28	821	hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S29	4050	tetrahymena or ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S30	1035	ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S31	855	hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S32	512	"acid hydrolase"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S33	609	beta WITH hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S34	532	beta NEAR5 hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S35	11003	protozoa	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S36	9112	hartmann.in. or tiedtke.in. or baumert.in.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55

S37	59376	recombinant WITH expression	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S38	391	(recombinant WITH expression) and ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S39	2071	protozoa and (recombinant WITH expression)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S40	39331	"protein expression" or "protein production"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S41	164	("protein expression" or "protein production") and hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S42	3482	tetrahymena	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S43	5	"beta.hexosaminidase"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S44	2	hexosaminidase SAME ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S45	4	hexosaminidase SAME (tetrahymena or ciliate)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S46	4	ciliate and (beta NEAR5 hexosaminidase)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S47	13	protozoa and (beta NEAR5 hexosaminidase)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S48	9	(hartmann.in. or tiedtke.in. or baumert.in.) and ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55

S49	6	cilian.as.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S50	3	((recombinant WITH expression) and ciliate) and hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S51	17	(protozoa and (recombinant WITH expression)) and hexosaminidase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S52	7	(("protein expression" or "protein production") and hexosaminidase) and (ciliate or protozoa)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S53	61	(tetrahymena or protozoa or ciliate) and "acid hydrolase"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S54	18	((tetrahymena or protozoa or ciliate) and "acid hydrolase") and ("protein expression" or "protein production")	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 16:55
S55	71627	recombinant SAME expression	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S56	324	S55 and S28	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S57	6	S56 and ciliat$	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S58	3	S36 and S28	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S59	69886	(|435/6|435/320.1|435/183|530/300|530/350|530/402|536/23.1|536/23.4|536/24.1|.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S60	2	S59 and S43	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55

S61	10955	PROTOZOA	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S62	27	S61 AND S28	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S63	20	S62 AND (RECOMBINANT OR HETEROLOGOUS OR RECOMBIN$)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2005/08/17 16:55
S64	5	"6583275".pn. "6558921".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 17:04
S65	0	S64 and ciliate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2005/08/17 17:04

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 FILE 'MEDLINE, EMBASE, BIOSIS' ENTERED AT 12:27:11 ON 18 AUG 2005
L1          6901 S HEXOSAMINIDASE
L2        119514 S RECOMBINANT (P) EXPRESSION
L3         45827 S CILIAT?
L4         16200 S TETRAHYMENA
L5         22596 S HARTMANN?/AU OR TIEDTKE?/AU OR BAUMERT?/AU
L6            17 S HUNSELER?/AU
L7        704657 S SECRETION OR (SIGNAL (S) PEPTIDE)
L8         35131 S DICTYOSTELIUM OR TETRAHYMENA
L9            39 S L1 AND L2
L10            0 S L9 AND L4
L11            0 S L9 AND L3
L12           19 S L1 AND L3
L13            0 S L12 AND L2
L14           11 S L12 AND L5
L15            8 DUP REM L14 (3 DUPLICATES REMOVED)
L16            8 S L15 NOT PY>=2002
L17           20 S L5 AND L1
L18           11 S L17 AND L3
L19            8 DUP REM L18 (3 DUPLICATES REMOVED)
L20            0 S L1 AND L3 AND TRANSFORMATION
L21          718 S TRANSFORMATION AND L3
L22            0 S L21 AND L1
L23           31 SS L21 AND L7
L24           21 DUP REM L23 (10 DUPLICATES REMOVED)
L25           20 S L24 NOT PY>=2002
L26           54 S L8 AND L1
L27            0 S L26 AND TRANSFORMATION
L28            0 S L26 AND (PROTEIN EXPRESSION)
L29            1 S L26 AND RECOMBINANT

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L16 ANSWER 1 OF 8 MEDLINE on STN
ACCESSION NUMBER: 91321858 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1368701
TITLE: Lysosomal enzymes produced by immobilized Tetrahymena thermophila.
AUTHOR: Kiy T; **Tiedtke A**
CORPORATE SOURCE: Zoologisches Institut, Universitat Munster, Federal Republic of Germany.
SOURCE: Applied microbiology and biotechnology, (1991 Apr) 35 (1) 14-8.
Journal code: 8406612. ISSN: 0175-7598.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Biotechnology
ENTRY MONTH: 199109
ENTRY DATE: Entered STN: 19950809
Last Updated on STN: 19970203
Entered Medline: 19910912

AB The **ciliated** protozoon Tetrahymena thermophila was immobilized for production of secreted lysosomal enzymes in two ways. Cells entrapped in solid Ca-alginate spheres survived but were unable to grow and multiply. However, when encapsulated in hollow Ca-alginate spheres Tetrahymena multiplied well, reaching 0.9 x 10(7) cells/ml. These immobilized cells secreted large amounts of lysosomal enzymes when the medium was changed daily. This system was transferred to a reactor scale using a conical bubble column reactor for semicontinuous cultivation of the encapsulated cells. Under these conditions alpha-glucosidase, beta-glucosidase, beta-**hexosaminidase** and acid phosphatase were produced for at least 4 weeks. The hollow spheres were stable for 3 months and contained living and secreting Tetrahymena cells during this time. Immobilized T. thermophila cells can thus serve as a good source for production of commercially interesting enzymes.

L16 ANSWER 2 OF 8 EMBASE on STN
ACCESSION NUMBER: 96081639 EMBASE
DOCUMENT NUMBER: 1996081639
TITLE: Production of lysosomal enzymes by continuous high-cell-density fermentation of the **ciliated** protozoon Tetrahymena thermophila in a perfused bioreactor.
AUTHOR: Kiy T.; Scheidgen-Kleyboldt G.; **Tiedtke A.**
CORPORATE SOURCE: Hoechst AG, Zentralforschung, Methodische Projekte, G 830,65926 Frankfurt, Germany
SOURCE: Enzyme and Microbial Technology, (1996) Vol. 18, No. 4, pp. 268-274.
ISSN: 0141-0229 CODEN: EMTED2
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 960325
Last Updated on STN: 960325

AB The production of several hydrolytic enzymes of lysosomal origin, such as acid phosphatase, β- **hexosaminidase**, α- and β-glucosidase, α-mannosidase, protease, and phosphodiesterase I and II, by the **ciliated** protozoon Tetrahymena thermophila was studied in a perfused bioreactor. After an initial batch phase, the second phase - characterized by continuous exchange of the medium - was started. Because the cells were retained completely, cell densities of 2.2 x 107 cells ml-1 could be achieved. Compared to standard batch fermentation of Tetrahymena this value is about 20 times higher. The enzyme activities of the harvested culture broth were even 40 to 50 times higher. For example, 19,600 mU acid phosphatase ml-1, 10,500 mU β-**hexosaminidase** ml-1, and 370 U protease ml-1 were obtained in the cell-free harvested medium. The highest secretion rates were achieved

with 1% glucose in the feed and a perfusion rate of 1.0 d-1. Under these conditions 106 cells secreted 790 ± 49 mU acid phosphatase d-1 and 226 ± 28 mU β- **hexosaminidase** d-1. Because the protein content of the exhausted culture medium mainly consisted of secreted hydrolases, the specific enzyme activities turned out to be high, e.g., 7635 ± 448 mU acid phosphatase mg-1 protein. The activities of β-**hexosaminidase** and acid phosphatase in the culture medium harvested via microfiltration remained stable for at least 500 h at room temperature even without the addition of protease inhibitors.

L16 ANSWER 3 OF 8 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 1993:299296 BIOSIS
DOCUMENT NUMBER: PREV199396017521
TITLE: Three pools of lysosomal enzymes in Tetrahymena thermophila.
AUTHOR(S): Kiy, Thomas; Vosskuehler, Christian; Rasmussen, Leif; **Tiedtke, Arno** [Reprint author]
CORPORATE SOURCE: Inst. General Zool. Genetics, Schlossplatz 5, D-4400 Muenster, Germany
SOURCE: Experimental Cell Research, (1993) Vol. 205, No. 2, pp. 286-292.
CODEN: ECREAL. ISSN: 0014-4827.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 23 Jun 1993
Last Updated on STN: 23 Jun 1993

AB Secretion of lysosomal enzymes into the extracellular surroundings has been observed in many eukaryotic cells. We studied the activity of lysosomal enzymes in different subcellular fractions of Tetrahymena thermophila to get more insight into this general phenomenon. By density gradient centrifugation a light and a dense fraction of lysosomal particles were found. Electron microscopy revealed that the light fraction mainly consists of cell surface membranes. By immunostaining a lysosomal enzyme (beta-**hexosaminidase**) was detected on the plasma membrane. The Triton X-114 assay showed that the light fraction as well as purified cilia (an enriched source of plasma membrane) contain lysosomal enzymes predominantly covalently bound to the membrane. The dense fraction contains both membrane-bound and soluble forms of lysosomal enzymes. By labeling phagosomes/phagolysosomes with magnetic particles the dense fraction can be subdivided into two lysosomal vesicle populations: phagolysosomes and a further population of lysosomal vesicles which can not be labeled. The relationship between membrane-bound and soluble enzyme forms in phagolysosomes and this unlabeled vesicle population is different: In phagolysosomes 80% of the acid phosphatase and 20% of the beta-**hexosaminidase** are membrane-bound, whereas in the unlabeled vesicles 42% of the acid phosphatase and 8% of the beta-**hexosaminidase** are bound to the membrane. Furthermore, we present results suggesting that the unlabeled vesicle population of the dense fraction is the source of secreted lysosomal enzymes. A working model summarizing our present knowledge about the connection of the three pools of lysosomal enzymes in Tetrahymena is presented.

L16 ANSWER 4 OF 8 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 1992:477637 BIOSIS
DOCUMENT NUMBER: PREV199294109012; BA94:109012
TITLE: DIFFERENTIAL INCREASE IN ACTIVITY OF ACID PHOSPHATASE INDUCED BY PHOSPHATE STARVATION IN TETRAHYMENA.
AUTHOR(S): RASMUSSEN L [Reprint author]; FLORIN-CHRISTENSEN M; FLORIN-CHRISTENSEN J; KIY T; **TIEDTKE A**
CORPORATE SOURCE: INSTITUTE MEDICAL BIOLOGY, DEP ANATOMY CYTOLOGY, ODENSE UNIVERSITY, 5230 ODENSE M, DENMARK
SOURCE: Experimental Cell Research, (1992) Vol. 201, No. 2, pp. 522-525.
CODEN: ECREAL. ISSN: 0014-4827.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 27 Oct 1992

Last Updated on STN: 28 Oct 1992

AB We have studied the effects of phosphate starvation on the levels and distributions of activities of acid phosphatase and β- **hexosaminidase** in cultures of Tetrahymena thermophila. The cells were grown in synthetic nutrient medium and refed every day with fresh medium. After 4 days of growth in the complete medium, the cultures were divided into to portions. One received complete medium and the other phosphate-free, but otherwise complete, medium. Population densities and activities of acid phosphatase and β- **hexosaminidase** in cells plus medium and in cell-free samples were determined in aliquots removed every day before medium replacement. In cultures having complete medium the enzyme levels remained fairly constant; in the phosphate-starved cultures both total and extracellular activities of acid phosphatase increased sixfold. β- **Hexosaminidase** levels remained essentially unaltered in both cases. These results indicate that phosphate starvation can induce differential increase in acid phosphatase activitiy in cultures of Tetrahymena. Somewhat less than 50% of the total activities of both enzyme are found in the cell-free extracellular fluid at any time.

L16 ANSWER 5 OF 8 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 1990:319286 BIOSIS
DOCUMENT NUMBER: PREV199039026622; BR39:26622
TITLE: SURFACE-MEMBRANE-BOUND ACID HYDROLASES EXOENZYMES OF TETRAHYMENA.
AUTHOR(S): KIY T [Reprint author]; FLORIN-CHRISTENSEN M; FLORIN-CHRISTENSEN J; RASMUSSEN L; **TIEDTKE A**
CORPORATE SOURCE: INST ZOOL, UNIV MUENSTER, D-4400 MUENSTER, FRG
SOURCE: European Journal of Cell Biology Supplement, (1990) No. 30, pp. 56.
Meeting Info.: ANNUAL MEETING OF THE DEUTSCHE GESELLSCHAFT FUER ZELLBIOLOGIE (GERMAN SOCIETY FOR CELL BIOLOGY), BREMEN, WEST GERMANY, MARCH 19-23, 1990. EUR J CELL BIOL SUPPL.
ISSN: 0724-5130.
DOCUMENT TYPE: Conference; (Meeting)
FILE SEGMENT: BR
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 18 Jul 1990
Last Updated on STN: 19 Jul 1990

L16 ANSWER 6 OF 8 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 1988:353898 BIOSIS
DOCUMENT NUMBER: PREV198886049376; BA86:49376
TITLE: BIOSYNTHESIS OF SECRETED BETA **HEXOSAMINIDASE** IN TETRAHYMENA-THERMOPHILA A COMPARISON OF THE WILD TYPE WITH A SECRETORY MUTANT.
AUTHOR(S): HUENSELER P [Reprint author]; **TIEDTKE A**; VON FIGURA K
CORPORATE SOURCE: ZOOLOGISCHES INST DER WESTFAELISCHEN WILHELMS-UNIV, MUENSTER, SCHLOSSPLATZ 5, D-4400 MUENSTER
SOURCE: Biochemical Journal, (1988) Vol. 252, No. 3, pp. 837-842.
ISSN: 0264-6021.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 3 Aug 1988
Last Updated on STN: 3 Aug 1988

AB The synthesis and secretion of β- **hexosaminidase** was studied in wild type and secretion-deficient Tetrahymena thermophila cells by metabolic labelling and immunoprecipitation. β- **Hexosaminidase** is synthesized as a Mr 79,000 polypeptide which is within 10 min converted into a Mr 59,000 form. The Mr 59,000-54,000, which are almost quantitatively secreted into the least three major mature forms of Mr 58,000-54,000, which are almost quantitatively secreted into the culture medium within 1-2 h after their synthesis. Both precursor and mature forms contain asparagine-linked oligosaccharide chains which are cleavable by endoglucosaminidase F, but not by endoglucosaminidase H. Neither

[32P]orthophosphate nor [35S]sulphate are incorporated into immunoprecipitable precursor and mature β-hexosaminidases, suggesting the absence of a phosphorylated recognition marker. Biosynthesis and processing of β- **hexosaminidase** is apparently unaltered in the secretory mutant MS-1; however the processed polypeptides remain cellular bound in the mutant, indicating that the mutation affects a late event in the secretion pathway of lysosomal enzymes.

L16 ANSWER 7 OF 8 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 1987:350360 BIOSIS
DOCUMENT NUMBER: PREV198733050981; BR33:50981
TITLE: BIOSYNTHESIS OF SECRETED LYSOSOMAL HYDROLASES OF TETRAHYMENA COMPARISON OF THE WILDTYPE WITH A SECRETION DEFICIENT MUTANT LINE.
AUTHOR(S): HUENSELER P [Reprint author]; **TIEDTKE A**; FIGURA K V
CORPORATE SOURCE: ZOOL INST UNIV MUENSTER, D-4400 MUENSTER
SOURCE: European Journal of Cell Biology Supplement, (1987) No. 17, pp. 28.
Meeting Info.: SYMPOSIUM ON BIOGENESIS OF ORGANELLES, ION TRANSPORT, CELL POLARITY AND CELL PROLIFERATION HELD AT THE ANNUAL MEETING OF THE DEUTSCHE GESELLSCHAFT FUER ZELLBIOLOGIE (GERMAN SOCIETY OF CELL BIOLOGY), HEIDELBERG, WEST GERMANY, MARCH 16-20, 1987. EUR J CELL BIOL SUPPL.
ISSN: 0724-5130.
DOCUMENT TYPE: Conference; (Meeting)
FILE SEGMENT: BR
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 15 Aug 1987
Last Updated on STN: 15 Aug 1987

L16 ANSWER 8 OF 8 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
ACCESSION NUMBER: 1984:202894 BIOSIS
DOCUMENT NUMBER: PREV198477035878; BA77:35878
TITLE: PURIFICATION AND PROPERTIES OF SECRETED N ACETYL-BETA-D **HEXOSAMINIDASE** EC-3.2.1.52 OF TETRAHYMENA-THERMOPHILA.
AUTHOR(S): **TIEDTKE A** [Reprint author]
CORPORATE SOURCE: ZOOLOGICAL INSTITUTE, UNIV MUENSTER, D-4400 MUENSTER, FRG
SOURCE: Comparative Biochemistry and Physiology B, (1983) Vol. 75, No. 2, pp. 239-244.
CODEN: CBPBB8. ISSN: 0305-0491.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
AB N-acetyl-β-D- **hexosaminidase** secreted by the **ciliate** T. thermophila was purified 260-fold with 41% yield by chromatography on Sephacryl S-300 and DEAE-cellulose. On a polyacrylamide gel, the enzyme appeared as a single peak of protein and activity. The MW of the denatured and reduced enzyme was 55,000 as estimated on sodium dodecyl sulfate polyacrylamide gel electrophoresis. The pH optima were at pH 3.6 and 4.7. The enzyme hydrolyzed p-nitrophenyl N-acetyl-β-D-glucosaminide with Km 0.49 mM and Vmax 0.45 μmol/min per mg protein. It was active on N,N'-diacetylchitobiose. Thermal stability and the effect of various metal ions on the enzyme activity were investigated.

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L29 ANSWER 1 OF 1 MEDLINE on STN

ACCESSION NUMBER: 92210560 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1532576
TITLE: A sequence in beta-**hexosaminidase** from **Dictyostelium** discoideum required for sorting of proteins to a compartment involved in developmentally induced secretion.
AUTHOR: Lacoste C H; Graham T; Kaplan A
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AB To study the sorting of proteins in **Dictyostelium** discoideum, we used vector constructs that contain cDNA coding for the entire beta-**hexosaminidase** protein to prepare transformants of a mutant that lacks this enzyme activity. These transformants overexpressed active, normally processed beta-**hexosaminidase**. The overexpressed enzyme colocalized with other acid hydrolases in the soluble fraction of vesicles in the lysosomal region of Percoll gradients. The sorting of other hydrolases was unaltered. We also prepared transformants with constructs that contain 22 (Hex 22-Inv), 70 (Hex 70-Inv), and 532 (Hex 532-Inv) amino-terminal amino acids from beta-**hexosaminidase** fused in frame with the coding sequence for the yeast SUC2 gene product, invertase. Fusion molecular masses were those expected for fully N-glycosylated proteins. Hex 22-Inv was rapidly (t1/2 less than 30 min) and quantitatively secreted. The others were slowly (t1/2 greater than 5 h) and partially secreted. Each expressed invertase activity. During growth, the invertase activity of Hex 70-Inv and Hex 532-Inv was retained to the same extent as that of endogenous lysosomal enzymes. Most of the Hex 70-Inv migrated in Percoll gradients with vesicles of intermediate density (d = 1.055), but a portion co-migrated with lysosomal enzymes at d = 1.08. Hex 70-Inv was sulfated, and its N-glycosides were resistant to endoglycosidase H, indicating Golgi processing. Hex 70-Inv and Hex 532-Inv, like endogenous lysosomal enzymes, were subject to developmentally induced secretion.

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